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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/059,311	01/31/2002	Kyung Chul Woo	3449-0190P	5488
2292	7590	08/06/2004	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH			JAGAN, MIRELLYS	
PO BOX 747			ART UNIT	PAPER NUMBER
FALLS CHURCH, VA 22040-0747			2859	

DATE MAILED: 08/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/059,311	Applicant(s) WOO ET AL.	
	Examiner Mirellys Jagan	Art Unit 2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

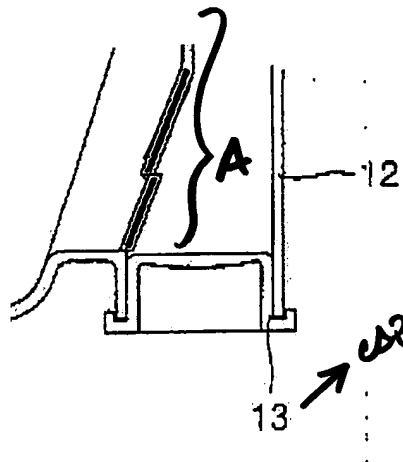
- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Claim Objections***

1. Claims 5, 6, and 9 are objected to because of the following informalities:

There is lack of antecedent basis in the original disclosure for the cap overlapping the tapered portion of the outer tub, as claimed in claims 5 and 9 (see figure 1(b) below, for example, which shows that the hollow cap does not overlap the tapered portion (A) of the outer tub).

Claim 6 is objected to for being dependent on objected base claim 5. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent 62192196 to Yamamoto et al [hereinafter Yamamoto].

Yamamoto discloses a washing machine having:

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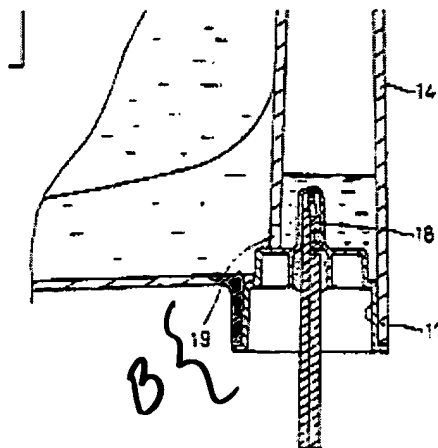
a water temperature measuring part including a temperature sensor (18) and signal lines for connecting the sensor to a circuit for measuring a temperature of water;

a water gauge chamber (14) extending along an outer side of an outer edge of an outer tub (2) of the washing machine; and

a hollow chamber cap (17) that is located at a bottom edge of the water gauge chamber to close an opened bottom portion of the gauge chamber, the cap having an upper side that is substantially flat, wherein substantially an entire upper surface of the of the upper side is exposed to the water;

wherein a lower surface of the upper side is formed with a recess serving as a seating portion in which is mounted the temperature measuring part so that the temperature of the water is measured without the sensor directly contacting the water; a hollow space of the cap faces downward and the water in the gauge chamber is above the cap; and a lower portion (labeled B in figure 3 shown below) of a side of the outer tub is tapered inwardly toward a bottom of the outer tub such that the cap overlaps the portion tapered inwardly (see figures 2 and 3).

Furthermore, the term “substantially” is considered to be a relative term, and since the specification does not provide a standard for ascertaining the requisite degree, the upper side of the cap disclosed by Yamamoto is considered to be substantially flat and have a substantially entire upper surface exposed to the water.



Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto in view of U.S. Patent 5,743,646 to O'Connell et al [hereinafter O'Connell].

Yamamoto discloses a machine having all of the limitations of claims 2 and 4, as stated above in paragraph 3, except for the cap having a heat insulating material inserted into its hollow space.

O'Connell discloses a temperature sensor for measuring temperature within a chamber. The temperature sensor is in a hollow probe that is filled with a heat insulating material. O'Connell teaches that it is beneficial to fill the probe with the material in order to maintain the sensor in place and provide efficient heat transfer for faster response of the sensor (see column 3, lines 18-34).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the machine of Yamamoto by filling the hollow interior of the cap with a heat insulating material, as taught by O'Connell, in order to maintain the sensor in place and provide efficient heat transfer for faster response of the sensor.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto.

Yamamoto discloses a washing machine having:

a water temperature measuring part (18) including a temperature sensor and signal lines for connecting the sensor to a circuit, and a cylindrical probe part of the cap containing the

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temperature measuring part therein and extending upward from the cap to directly contact the water;

an outer tub (2) having a bottom that is substantially flat, a side that is substantially cylindrical, and a tapered portion between the bottom and side;

a water gauge chamber (14) extending along a portion of an outer surface of the cylindrical side and the tapered portion; and

a hollow chamber cap (17) that is located at a bottom edge of the water gauge chamber and overlapping the tapered portion of the outer tub to close an opened bottom portion of the gauge chamber (see figures 2 and 3).

Yamamoto does not disclose the cap and the probe being made of two separate parts such that the probe extends through a hole in the cap to contact the water.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the cap disclosed by Yamamoto by making the cap of two separate parts such that the probe extends through a hole in the cap to contact the water in order to allow the length of the probe within the water to be adjustable, thereby maintaining the sensor within the water level of a particular machine, and since it has been held that the mere fact that a given structure is integral does not preclude its consisting of various elements. See Nerwin v. Erlichman, 168 USPQ 177, 179 (PTO Bd. of Int.1969).

7. Claims 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto in view of O'Connell.

Yamamoto discloses a machine having all of the limitations of claim 6, as stated above in paragraph 6, except for the cap having a heat insulating material inserted into its hollow space.

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O'Connell discloses a temperature sensor for measuring temperature within a chamber. The temperature sensor is in a hollow probe that is filled with a heat insulating material. O'Connell teaches that it is beneficial to fill the probe with the material in order to maintain the sensor in place and provide efficient heat transfer for faster response of the sensor (see column 3, lines 18-34).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the machine of Yamamoto by filling the hollow interior of the cap with a heat insulating material, as taught by O'Connell, in order to maintain the sensor in place and provide efficient heat transfer for faster response of the sensor.

8. Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto.

Yamamoto discloses a machine having all of the limitations of claims 8 and 10, as stated above in paragraph 3, but is silent as to the manner in which the cap is attached to the chamber, and the particular material of the cap, and therefore does not disclose the cap being welded to the bottom edge of the chamber, and the cap being made of a plastic material.

Referring to claim 8, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the cap disclosed by Yamamoto by welding the cap to the chamber in order to seal the opening at the bottom of the chamber and prevent water from leaking out.

Referring to claim 10, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the machine disclosed by Yamamoto by making the cap of a plastic material in order to use a less expensive material or a material that is resistant to corrosion, and since the particular type of material claimed by applicant is considered to be the use of a "preferred" or "optimum" material out of a plurality of well known materials that a

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person having ordinary skill in the art at the time the invention was made would have been able to provide based on the intended use of applicant's apparatus, i.e., suitability for the intended use of applicant's apparatus, which in this case is to provide a housing for a temperature sensor to measure the temperature of water in a washing machine. See *In re Leshin*, 125 USPQ 416 (CCPA 1960), where the courts held that a selection of a material on the basis of suitability for intended use of an apparatus would be entirely obvious.

Response to Arguments

9. Applicant's arguments with respect to claims 1-6 and 8-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mirellys Jagan whose telephone number is 571-272-2247. The examiner can normally be reached on Monday-Friday from 9AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJ
August 3, 2004



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